

IN THE CLAIMS:

Please amend the claims as follows, substituting any amended claim(s) for the corresponding pending claim(s):

Please cancel Claims 14-15, 20-22, 45-46, 51-53, 77-78 and 83-85 without prejudice, and add new Claims 95-106.

1 1. (Amended) A method of switching between physical interfaces on a device, the method
2 comprising:
3 switching from a first physical interface on the device to a second physical interface on the
4 device based on information in an interface redundancy group such that the second physical interface
5 assumes responsibilities of the first physical interface, the responsibilities comprising routing and/or
6 bridging functions;
7 wherein the information in the interface redundancy group identifies the first physical
8 interface as a primary interface for the device and the second physical interface as a secondary
9 interface for the device.

1 2. (Unchanged) The method of claim 1, wherein the interface redundancy group includes
2 information defining the primary interface for the device and one or more secondary interfaces for
3 the device.

1 3. (Unchanged) The method of claim 1, further comprising detecting an event at the first
2 physical interface;
3 wherein switching is performed in response to the event.

1 4. (Unchanged) The method of claim 3, wherein the event comprises a failure of the first
2 physical interface.

1 5. (Unchanged) The method of claim 4, wherein the first physical interface is associated
2 with a driver and a signaling stack, and the failure of the first physical interface comprises a failure
3 of the driver and/or the signaling stack.

1 6. (Unchanged) The method of claim 5, further comprising monitoring the driver and the
2 signaling stack in order to detect a failure of the driver and/or the signaling stack.

1 7. (Unchanged) The method of claim 3, wherein the event comprises receipt of a slot failure
2 at the first physical interface.

1 8. (Unchanged) The method of claim 1, wherein, prior to switching, the second physical
2 interface operates in a passive mode during which the second physical interface is dormant.

1 9. (Unchanged) The method of claim 1, wherein, prior to switching, the second physical
2 interface operates in an active mode during which the second physical interface is communicating
3 over a network.

1 10. (Unchanged) The method of claim 1, wherein the first physical interface supports one
2 or more network layer interfaces.

1 11. (Unchanged) The method of claim 10, wherein, following switching, the second
2 physical interface supports the one or more network layer interfaces formerly supported by the first
3 physical interface.

1 12. (Unchanged) The method of claim 1, wherein the first and second physical interfaces
2 comprise asynchronous transfer mode (ATM) physical interfaces.

1 13. (Unchanged) The method according to claim 1, wherein the first and second physical
2 interfaces are resident on a single network router.

1 14. Deleted.

1 15. Deleted.

1 16. (Unchanged) The method of claim 1, wherein, following switching, the second physical
2 interface is configured in a same manner as the first physical interface was configured prior to
3 switching.

1 17. (Unchanged) The method of claim 1, wherein the device includes a third physical
2 interface, and the interface redundancy group identifies the third physical interface as a tertiary
interface; and
further comprising switching from the second physical interface to the third physical interface
in response to an event.

1 18. (Unchanged) The method of claim 17, wherein, following switching, the third physical
2 interface assumes responsibilities of the first and second physical interfaces.

1 19. (Unchanged) The method of claim 18, wherein the responsibilities include routing
2 and/or bridging functions.

1 20. Deleted.

1 21. Deleted.

1 22. Deleted.

Sub 3
amended
1
2
3
4
5
6
7
8
9
10
11
12

23. (Amended) A method of switching between asynchronous transfer mode (ATM) physical interfaces on a device, the method comprising:
switching from a first ATM physical interface on the device to a second ATM physical interface on the device based on information in an interface redundancy group such that the second ATM physical interface assumes responsibilities of the first ATM physical interface, the responsibilities comprising routing and/or bridging functions; and
establishing ATM network layer interfaces over the second ATM physical interface that correspond to ATM network layer interfaces that were established over the first ATM physical interface prior to switching;
wherein the information in the interface redundancy group identifies the first ATM physical interface as a primary interface for the device and the second ATM physical interface as a secondary interface for the device.

1 24. (Unchanged) The method of claim 23, wherein the interface redundancy group includes
2 information defining the primary interface for the device and one or more secondary interfaces for
3 the device.

1 25. (Unchanged) The method of claim 23, further comprising detecting an event at the first
2 ATM physical interface;
3 wherein switching is performed in response to the event.

1 26. (Unchanged) The method of claim 25, wherein the event comprises a failure of the first
2 ATM physical interface.

1 27. (Unchanged) The method of claim 26, wherein the first ATM physical interface is
2 associated with a driver and a signaling stack, and the failure of the first ATM physical interface
3 comprises a failure of the driver and/or the signaling stack.

1 28. (Unchanged) The method of claim 27, further comprising monitoring the driver and the
2 signaling stack in order to detect a failure of the driver and/or the signaling stack.

1 29. (Unchanged) The method of claim 25, wherein the event comprises receipt of a slot
2 failure at the first ATM physical interface.

1 30. (Unchanged) The method of claim 23, wherein, prior to switching, the second ATM
2 physical interface operates in a passive mode during which the second ATM physical interface is
3 dormant.

1 31. (Unchanged) The method of claim 23, wherein, prior to switching, the second ATM
2 physical interface operates in an active mode during which the second ATM physical interface is
3 communicating over a network.

Sub 31
1 32. (Amended) A computer program stored on a computer-readable medium for switching
2 between physical interfaces on a device, the computer program comprising instructions that cause
3 a computer to:

4 switch from a first physical interface on the device to a second physical interface on the
5 device based on information in an interface redundancy group such that the second physical interface
6 assumes responsibilities of the first physical interface, the responsibilities comprising routing and/or
7 bridging functions;

8 wherein the information in the interface redundancy group identifies the first physical
9 interface as a primary interface for the device and the second physical interface as a secondary
10 interface for the device.

1 33. (Unchanged) The computer program of claim 32, wherein the interface redundancy
2 group includes information defining the primary interface for the device and one or more secondary
3 interfaces for the device.

1 34. (Unchanged) The computer program of claim 32, further comprising instructions that
2 cause the computer to detect an event at the first physical interface;
3 wherein switching is performed in response to the event.

1 35. (Unchanged) The computer program of claim 34, wherein the event comprises a failure
2 of the first physical interface.

1 36. (Unchanged) The computer program of claim 35, wherein the first physical interface is
2 associated with a driver and a signaling stack, and the failure of the first physical interface comprises
3 a failure of the driver and/or the signaling stack.

1 37. (Unchanged) The computer program of claim 36, further comprising instructions to
2 cause the computer to monitor the driver and the signaling stack in order to detect a failure of the
3 driver and/or the signaling stack.

1 38. (Unchanged) The computer program of claim 34, wherein the event comprises receipt
2 of a slot failure at the first physical interface.

1 39. (Unchanged) The computer program of claim 32, wherein, prior to switching, the second
2 physical interface operates in a passive mode during which the second physical interface is dormant.

1 40. (Unchanged) The computer program of claim 32, wherein, prior to switching, the second
2 physical interface operates in an active mode during which the second physical interface is
3 communicating over a network.

41. (Unchanged) The computer program of claim 32, wherein the first physical interface
supports one or more network layer interfaces.

42. (Unchanged) The computer program of claim 41, wherein, following switching, the
2 second physical interface supports the one or more network layer interfaces formerly supported by
3 the first physical interface.

1 43. (Unchanged) The computer program of claim 32, wherein the first and second physical
2 interfaces comprise asynchronous transfer mode (ATM) physical interfaces.

1 44. (Unchanged) The computer program according to claim 32, wherein the first and second
2 physical interfaces are resident on a single network router.

1 45. Deleted.

1 46. Deleted.

1 47. (Unchanged) The computer program of claim 32, wherein, following switching, the
2 second physical interface is configured in a same manner as the first physical interface was
3 configured prior to switching.

4 48. (Unchanged) The computer program of claim 32, wherein the device includes a third
5 physical interface, and the interface redundancy group identifies the third physical interface as a
6 tertiary interface; and

7 further comprising instructions to cause the computer to switch from the second physical
8 interface to the third physical interface in response to an event.

1 49. (Unchanged) The computer program of claim 48, wherein, following switching, the third
2 physical interface assumes responsibilities of the first and second physical interfaces.

1 50. (Unchanged) The computer program of claim 49, wherein the responsibilities include
2 routing and/or bridging functions.

1 51. Deleted.

1 52. Deleted.

53. Deleted.

Sub 2
1
2
3 54. (Amended) A computer program stored on a computer-readable medium for switching
between asynchronous transfer mode (ATM) physical interfaces on a device, the computer program
comprising instructions that cause a computer to:

4 switch from a first ATM physical interface on the device to a second ATM physical interface
5 on the device based on information in an interface redundancy group such that the second ATM
6 physical interface assumes responsibilities of the first ATM physical interface, the responsibilities
7 comprising routing and/or bridging functions; and

8 establish ATM network layer interfaces over the second ATM physical interface that
9 correspond to ATM network layer interfaces that were established over the first ATM physical
10 interface prior to switching;

11 wherein the information in the interface redundancy group identifies the first ATM physical
12 interface as a primary interface for the device and the second ATM physical interface as a secondary
13 interface for the device.

1 55. (Unchanged) The computer program of claim 54, wherein the interface redundancy
2 group includes information defining the primary interface for the device and one or more secondary
3 interfaces for the device.

1 56. (Unchanged) The computer program of claim 54, further comprising instructions that
2 cause the computer to detect an event at the first ATM physical interface;
3 wherein switching is performed in response to the event.

1 57. (Unchanged) The computer program of claim 56, wherein the event comprises a failure
2 of the first ATM physical interface.

1 58. (Unchanged) The computer program of claim 57, wherein the first ATM physical
2 interface is associated with a driver and a signaling stack, and the failure of the first ATM physical
3 interface comprises a failure of the driver and/or the signaling stack.

1 59. (Unchanged) The computer program of claim 58, further comprising instructions that
2 cause the computer to monitor the driver and the signaling stack in order to detect a failure of the
3 driver and/or the signaling stack.

1 60. (Unchanged) The computer program of claim 56, wherein the event comprises receipt
2 of a slot failure at the first ATM physical interface.

1 61. (Unchanged) The computer program of claim 54, wherein, prior to switching, the second
ATM physical interface operates in a passive mode during which the second ATM physical interface
is dormant.

1 62. (Unchanged) The computer program of claim 54, wherein, prior to switching, the second
2 ATM physical interface operates in an active mode during which the second ATM physical interface
3 is communicating over a network.

1 63. (Unchanged) The computer program of claim 54, wherein the device includes a third
2 ATM physical interface, and the interface redundancy group identifies the third ATM physical
3 interface as a tertiary interface; and

4 further comprising instructions that cause the computer to switch from the second physical
5 interface to the third physical interface in response to an event.

1 64. (Amended) An apparatus which switches between physical interfaces, the apparatus
2 comprising:
3 a first physical interface;
4 a second physical interface; and
5 a processor which executes instructions to switch from the first physical interface to the
6 second physical interface based on information in an interface redundancy group such that the second
7 physical interface assumes responsibilities of the first physical interface, the responsibilities
8 comprising routing and/or bridging functions;
9 wherein the information in the interface redundancy group identifies the first physical
10 interface as a primary interface for the device and the second physical interface as a secondary
11 interface for the device.

1 65. (Unchanged) The apparatus of claim 64, wherein the interface redundancy group
2 includes information defining the primary interface for the apparatus and one or more secondary
3 interfaces for the apparatus.

1 66. (Unchanged) The apparatus of claim 64, wherein:
2 the processor executes instructions to detect an event at the first physical interface; and
3 switching is performed in response to the event.

1 67. (Unchanged) The apparatus of claim 66, wherein the event comprises a failure of the
2 first physical interface.

1 68. (Unchanged) The apparatus of claim 67, wherein the first physical interface is associated
with a driver and a signaling stack, and the failure of the first physical interface comprises a failure
of the driver and/or the signaling stack.

1 69. (Unchanged) The apparatus of claim 68, wherein the processor executes instructions to
2 monitor the driver and the signaling stack in order to detect a failure of the driver and/or the
3 signaling stack.

1 70. (Unchanged) The apparatus of claim 66, wherein the event comprises receipt of a slot
2 failure at the first physical interface.

1 71. (Unchanged) The apparatus of claim 64, wherein, prior to switching, the second physical
2 interface operates in a passive mode during which the second physical interface is dormant.

1 72. (Unchanged) The apparatus of claim 64, wherein, prior to switching, the second physical
2 interface operates in an active mode during which the second physical interface is communicating
3 over a network.

1 73. (Unchanged) The apparatus of claim 64, wherein the first physical interface supports
2 one or more network layer interfaces.

1 74. (Unchanged) The apparatus of claim 73, wherein, following switching, the second
physical interface supports the one or more network layer interfaces formerly supported by the first
physical interface.

1 75. (Unchanged) The apparatus of claim 64, wherein the first and second physical interfaces
2 comprise asynchronous transfer mode (ATM) physical interfaces.

1 76. (Unchanged) The apparatus of claim 64, which comprises a single network router.

1 77. Deleted.

1 78. Deleted.

1 79. (Unchanged) The apparatus of claim 64, wherein, following switching, the second
2 physical interface is configured in a same manner as the first physical interface was configured prior
3 to switching.

1 80. (Unchanged) The apparatus of claim 64, wherein:
2 the apparatus further comprises a third physical interface, and the interface redundancy group
3 identifies the third physical interface as a tertiary interface; and
4 the processor executes instructions to switch from the second physical interface to the third
physical interface in response to an event.

1 81. (Unchanged) The apparatus of claim 80, wherein, following switching, the third physical
interface assumes responsibilities of the first and second physical interfaces.

1 82. (Unchanged) The apparatus of claim 81, wherein the responsibilities include routing
2 and/or bridging functions.

1 83. Deleted.

1 84. Deleted.

1 85. Deleted.

1 86. (Amended) An apparatus which switches between asynchronous transfer mode (ATM)
2 physical interfaces, the apparatus comprising:
3 a first ATM physical interface;
4 a second ATM physical interface; and
5 a processor which executes instructions to:
6 switch from the first ATM physical interface to the second ATM physical interface
7 based on information in an interface redundancy group such that the second ATM physical interface
8 assumes responsibilities of the first ATM physical interface, the responsibilities comprising routing
9 and/or bridging functions; and
10 establish ATM network layer interfaces over the second ATM physical interface that
11 correspond to ATM network layer interfaces that were established over the first ATM physical
12 interface prior to switching;
13 wherein the information in the interface redundancy group identifies the first ATM physical
14 interface as a primary interface for the device and the second ATM physical interface as a secondary
15 interface for the device.

1 87. (Unchanged) The apparatus of claim 86, wherein the interface redundancy group
2 includes information defining the primary interface for the apparatus and one or more secondary
3 interfaces for the apparatus.

1 88. (Unchanged) The apparatus of claim 86, wherein:
2 the processor detects an event at the first ATM physical interface; and
3 switching is performed in response to the event.

89. (Unchanged) The apparatus of claim 88, wherein the event comprises a failure of the
first ATM physical interface.

90. (Unchanged) The apparatus of claim 89, wherein the first ATM physical interface is
associated with a driver and a signaling stack, and the failure of the first ATM physical interface
comprises a failure of the driver and/or the signaling stack.

91. (Unchanged) The apparatus of claim 90, wherein the processor executes instructions to
monitor the driver and the signaling stack in order to detect a failure of the driver and/or the
signaling stack.

92. (Unchanged) The apparatus of claim 88, wherein the event comprises receipt of a slot
-failure at the first ATM physical interface.

1 93. (Unchanged) The apparatus of claim 86, wherein, prior to switching, the second ATM
2 physical interface operates in a passive mode during which the second ATM physical interface is
3 dormant.

2 94. (Unchanged) The apparatus of claim 86, wherein, prior to switching, the second ATM
3 physical interface operates in an active mode during which the second ATM physical interface is
communicating over a network.

Please add new Claims 95-106:

1 95. (New) A method of switching between asynchronous transfer mode (ATM) physical
2 interfaces on a device, the method comprising:
3 switching from a first ATM physical interface on the device to a second ATM physical
4 interface on the device based on information in an interface redundancy group, the first ATM
5 physical interface associated with a driver and a signaling stack;
6 establishing ATM network layer interfaces over the second ATM physical interface that
7 correspond to ATM network layer interfaces that were established over the first ATM physical
8 interface prior to switching, and wherein the information in the interface redundancy group identifies
9 the first ATM physical interface as a primary interface for the device and the second ATM physical
10 interface as a secondary interface for the device; and
11 detecting an event at the first ATM physical interface wherein the switching is performed in
12 response to the event, and the event comprises a failure of the first ATM physical interface, and the
13 failure of the first ATM physical interface comprises a failure of the driver and/or signaling stack.

1 96. (New) The method of claim 95, further comprising monitoring the driver and the
2 signaling stack in order to detect a failure of the driver and/or the signaling stack.

1 97. (New) A method of switching between asynchronous transfer mode (ATM) physical
2 interfaces on a device, the method comprising:

3 switching from a first ATM physical interface on the device to a second ATM physical
4 interface on the device based on information in an interface redundancy group;

5 establishing ATM network layer interfaces over the second ATM physical interface that
6 correspond to ATM network layer interfaces that were established over the first ATM physical
7 interface prior to switching, and wherein the information in the interface redundancy group identifies
8 the first ATM physical interface as a primary interface for the device and the second ATM physical
9 interface as a secondary interface for the device; and

10 detecting an event at the first ATM physical interface and wherein the switching is performed
11 in response to the event, and the event comprises receipt of a slot failure at the first ATM physical
12 interface.

1 98. (New) A computer program stored on a computer-readable medium for switching
2 between asynchronous transfer mode (ATM) physical interfaces on a device, the computer program
3 comprising instructions that cause a computer to:

4 switch from a first ATM physical interface on the device to a second ATM physical interface
on the device based on information in an interface redundancy group, the first ATM physical
interface associated with a driver and a signaling stack;

5 establish ATM network layer interfaces over the second ATM physical interface that
6 correspond to ATM network layer interfaces that were established over the first ATM physical
7 interface prior to switching, and wherein the information in the interface redundancy group identifies
8 the first ATM physical interface as a primary interface for the device and the second ATM physical
9 interface as a secondary interface for the device; and

10 detect an event at the first ATM physical interface and wherein the switching is performed
11 in response to the event, and the event comprises a failure of the first ATM physical interface, and
12 the failure of the first ATM physical interface comprises a failure of the driver and/or the signaling
13 stack.
14
15

1 99. (New) The computer program of claim 98, further comprising instructions that cause
2 the computer to monitor the driver and the signaling stack in order to detect a failure of the driver
3 ~~and/or the signaling stack.~~

1 100. (New) A computer program stored on a computer-readable medium for switching
2 between asynchronous transfer mode (ATM) physical interfaces on a device, the computer program
3 comprising instructions that cause a computer to:

4 switch from a first ATM physical interface on the device to a second ATM physical interface
5 on the device based on information in an interface redundancy group;

6 establish ATM network layer interfaces over the second ATM physical interface that
7 correspond to ATM network layer interfaces that were established over the first ATM physical
8 interface prior to switching, and wherein the information in the interface redundancy group identifies
9 the first ATM physical interface as a primary interface for the device and the second ATM physical
10 interface as a secondary interface for the device; and

11 detect an event at the first ATM physical interface and wherein the switching is performed
12 in response to the event, and the event comprises receipt of a slot failure at the first ATM physical
13 interface.

1 101. (New) An apparatus which switches between asynchronous transfer mode (ATM)
2 physical interfaces, the apparatus comprising:

3 a first ATM physical interface;

4 a second ATM physical interface; and

5 a processor which executes instructions to:

6 switch from the first ATM physical interface to the second ATM physical interface

7 based on information in an interface redundancy group, the first ATM physical interface associated
8 with a driver and a signaling stack;;

9 establish ATM network layer interfaces over the second ATM physical interface that

10 correspond to ATM network layer interfaces that were established over the first ATM physical
11 interface prior to switching, and wherein the information in the interface redundancy group identifies
12 the first ATM physical interface as a primary interface for the device and the second ATM physical
13 interface as a secondary interface for the device; and

14 detect an event at the first ATM physical interface and wherein the switching is
15 performed in response to the event, and the event comprises a failure of the first ATM physical
16 interface, and the failure of the first ATM physical interface comprises a failure of the driver and/or
17 ~~the signaling stack.~~

102. (New) The apparatus of claim 101, wherein the processor executes instructions to monitor the driver and the signaling stack in order to detect a failure of the driver and/or the signaling stack.

1 103. (New) An apparatus which switches between asynchronous transfer mode (ATM)
2 physical interfaces, the apparatus comprising:
3 a first ATM physical interface;
4 a second ATM physical interface; and
5 a processor which executes instructions to:
6 switch from the first ATM physical interface to the second ATM physical interface
7 based on information in an interface redundancy group;
8 establish ATM network layer interfaces over the second ATM physical interface that
9 correspond to ATM network layer interfaces that were established over the first ATM physical
10 interface prior to switching, and wherein the information in the interface redundancy group identifies
11 the first ATM physical interface as a primary interface for the device and the second ATM physical
12 interface as a secondary interface for the device; and
13 detect an event at the first ATM physical interface and wherein the switching is
14 performed in response to the event, and the event comprises receipt of a slot failure at the first ATM
15 physical interface.

1 104. (New) A method of switching between physical interfaces on a device, the method
2 comprising:

3 switching from a first physical interface on the device to a second physical interface on the
4 device based on information in an interface redundancy group, the first physical interface supporting
5 one or more network layer interfaces comprising a virtual circuit established in accordance with a
6 protocol;

7 wherein the information in the interface redundancy group identifies the first physical
8 interface as a primary interface for the device and the second physical interface as a secondary
9 interface for the device.

1 105. (New) A computer program stored on a computer-readable medium for switching
2 between physical interfaces on a device, the computer program comprising instructions that cause
3 a computer to:

4 switch from a first physical interface on the device to a second physical interface on the
5 device based on information in an interface redundancy group, the first physical interface supporting
6 one or more network layer interfaces comprising a virtual circuit established in accordance with a
7 protocol;

8 wherein the information in the interface redundancy group identifies the first physical
9 interface as a primary interface for the device and the second physical interface as a secondary
10 interface for the device.

1 106. (New) An apparatus which switches between physical interfaces, the apparatus
2 comprising:
3 a first physical interface;
4 a second physical interface; and
5 a processor which executes instructions to switch from the first physical interface to the
6 second physical interface based on information in an interface redundancy group, the first physical
7 interface supporting one or more network layer interfaces comprising a virtual circuit established in
8 accordance with a protocol;
9 wherein the information in the interface redundancy group identifies the first physical
10 interface as a primary interface for the device and the second physical interface as a secondary
11 interface for the device.